UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,985	02/20/2004	Uri Mahlab	MAHLAB8	5729

1444 7590 12/21/2006

BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER	
KIM, DAVID S	
ART UNIT	**PAPER NUMBER**
2613	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/21/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/781,985	MAHLAB ET AL.	
	Examiner	Art Unit	
	David S. Kim	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2004 and 26 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. **Claims 2 and 5** are objected to because of the following informalities:

In claim 2, "one ore more" is used where -- one or more -- may be intended.

In claim 5, antecedent basis for "the trail" is lacking.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 2 and 4-13** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In particular, notice the following limitation in claim 2:

"***measuring chirp*** at least at one optical channel at the monitoring point" (emphasis Examiner's).

Applicant's disclosure does not provide teachings that enable one to measure chirp. More exactly, the specification expressly states, "In the frame of the present application, we do not explain exact methods of measuring chirp" (p. 9, l. 26-27). Without such teachings, one of ordinary skill in the art would not be enabled to make and/or use the invention of claims 2 and 4-13.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1, 3, 14, and 16** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Notice that claim 1 is a method claim but lacks any steps to perform the method. Accordingly, claim 1 simply claims a method without any active, positive steps delimiting how this method is practiced. Thus, claim 1 is indefinite.

Claim 3 characterizes the "measuring chirp" phrase in parent claim 1 as a step of the method, but the claim language does not appear to clearly show "measuring chirp" as a step of the method. Thus, claim 3 is indefinite. As a remedy, Examiner respectfully suggests amending the claim language of parent claim 1 so that the method expressly comprises the step of "measuring chirp", instead of using the language "based on".

Claim 14 does not expressly add any steps to the method of parent claim 1. Accordingly, claim 14 is also indefinite.

Claim 16 does not expressly add any steps to the method of parent claim 1. Accordingly, claim 16 is also indefinite.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Kawasaki et al.

7. **Claims 1, 3, and 16** are rejected under 35 U.S.C. 102(b) as being anticipated by Kawasaki et al. (EP 0 944 191 A1, hereinafter "Kawasaki").

Regarding claim 1, Kawasaki discloses:

A method of traffic management in an optical network, based on measuring chirp (chirp measurements of Fig. 17 employed in controlling bias voltage of transmitter, paragraph [0108]) of optical signals transmitted along an optical path extending in said network.

Regarding claim 3, Kawasaki discloses:

The method according to claim 1, wherein the step of measuring chirp comprises measuring a second derivative of phase of an optical signal in said at least one optical channel with respect to time (second derivative in paragraph [0035]).

Regarding claim 16, Kawasaki discloses:

A system capable of performing the method for traffic management in an optical network according to the method of claim 1 (e.g., Fig. 1).

Inui et al.

8. **Claims 1, 4, 9, 13, and 16** are rejected under 35 U.S.C. 102(e) as being anticipated by Inui et al. (U.S. Patent No. 6,958,467 B2, hereinafter "Inui").

Regarding claim 1, Inui discloses:

A method of traffic management in an optical network, based on measuring chirp (e.g., Fig. 15, col. 12, l. 30-37) of optical signals transmitted along an optical path extending in said network.

Regarding claim 16, Inui discloses:

A system capable of performing the method for traffic management in an optical network according to the method of claim 1 (e.g., Fig. 15).

9. **Claim 3** is rejected under 35 U.S.C. 102(e) as being anticipated by Inui with reference to Kawasaki.

Regarding claim 3, Inui does not expressly disclose:

The method according to claim 1, wherein the step of measuring chirp comprises measuring a second derivative of phase of an optical signal in said at least one optical channel with respect to time.

However, Kawasaki does show that one may characterize chirp according to such a second derivative (Kawasaki, second derivative in paragraph [0035]).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Kawasaki et al.

12. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawasaki.

Regarding claim 14, Kawasaki does not expressly disclose:

The method according to claim 1, being performed at two or more optical channels of the optical path.

However, it is conventional practice to employ multiple optical channels for an optical path. A common example of such a practice is wavelength division multiplex (WDM) systems. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to employ two or more channels as in a WDM system. One of ordinary skill in the art would have been motivated to do this for the conventional motivation of increased transmission capacity. That is, WDM provides more optical channels per optical path. Applied to the method of Kawasaki, it follows that the method of Kawasaki would be applied to each channel so that it is performed at two or more channels of the optical path.

Inui et al.

13. **Claims 14-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Inui.

Regarding claim 14, Inui does not expressly disclose:

The method according to claim 1, being performed at two or more optical channels of the optical path.

However, it is conventional practice to employ multiple optical channels for an optical path. A common example of such a practice is wavelength division multiplex (WDM) systems. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to employ two or more channels as in a WDM system. One of ordinary skill in the art would have been motivated to do this for the conventional motivation of increased transmission capacity. That is, WDM provides more optical channels per optical path. Applied to the method of Inui, it follows that the method of Inui would be applied to each channel so that it is performed at two or more channels of the optical path.

Regarding claim 15, Inui does not expressly disclose:

The method according to claim 1, comprising performing thereof at a plurality of monitoring points in the optical network, thereby ensuring monitoring of non-linearity effects at sections of the network formed between the monitoring points, and performing various traffic management operations for reducing the non-linearity effects at suitable sections of the network.

However, Inui does suggest such steps by referring to the usage of its teachings in a repeater and regenerator (col. 1, l. 10-15). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to employ these steps in more than just one repeater and regenerator. One of ordinary skill in the art would have been motivated to do this since multiple repeaters and regenerators are generally employed in an optical communication system to compensate for various transmission parameters along the transmission link. As non-linearity effects generally accumulate between repeaters and regenerators, it follows that one would apply the compensation means at more than one repeater or regenerator to compensate for these instances of accumulation.

Conclusion

14. The references made of record and not relied upon are considered pertinent to applicant's disclosure. Sheridan-Eng and Asous et al. are cited to show the measurement of the chirp of optical sources. Satoh and Mikami et al. are cited to show the control of the chirp of optical sources. Suzuki and Sato et al. are cited to show the measurement of chirp in optical transmission systems. Gouveia et al. is cited to show a method to determine waveguide optical nonlinearities using an optical pulse with a variable chirp. Inui et al. ("160 Gbit/s adaptive dispersion equaliser using asynchronous chirp monitor with balanced dispersion configuration") is cited to show another method and apparatus for measuring chirp and managing traffic in an optical network. Landesman et al. is cited to show another method and apparatus for measuring chirp and managing traffic in an optical network. Suzuki et al. is cited to show the relation between laser transient chirp and chirp from self-phase modulation (Fig. 3).

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N. Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSK

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER